

REMARKS

This communication is in response to the first Office Action dated July 27, 2005. In that Office Action, the Examiner rejected Claims 1, 3-4, and 6-14 as being anticipated by U.S. Patent No. 6,903,984 to Tang et al. The Examiner also rejected Claims 2 and 5 as being obvious in view of Tang. Finally, the Examiner rejected Claims 1-14 under the judicially created doctrine of obviousness-type double patenting.

In response, applicant submits a Terminal Disclaimer duly executed by the undersigned attorney of record. Thus, applicant respectfully submits that the double patenting rejection should be withdrawn. Further, in reviewing the claims as submitted with the filing of the patent application, applicant noticed some minor errors in the claim language with respect to antecedent basis. Applicant has amended the claims to correct these deficiencies. Furthermore, applicant has cancelled Claims 8-14.

The primary aspect of the claimed invention is the use of an n-type region at the surface of the semiconductor substrate to form the row wordline of the memory cell. Perhaps the best illustration of this is shown in Figure 28 of the present specification. Because of the use of an n-type diffusion as the row wordline formed in the substrate, the size of the memory cell can be reduced.

In contrast, there is no indication in the Tang reference that indicates that the "wordline" referenced therein is anything but a conventional "above the substrate" structure, such as a metal line or a polysilicon line. The Examiner points to Col. 2, lines 38 et seq. as support for his arguments. However, applicant has thoroughly reviewed the cited passage and can find no indication that the wordline of Tang is formed in the substrate of the memory cell. Rather, it would appear that the wordline is connected to the drain of the transistor of Tang and is routed upwardly onto a metal interconnect structure. While at lines 58-61 of Col. 2 of the Tang reference does indicate that n-type regions are formed, these are only used to form the source and drain of the transistor. There is absolutely no indication that an n-type diffusion is used as a wordline as is required by the

Application No.: 10/798,753

Docket No.: 384848014US

claims of the present invention. Thus, Claims 1 and 4 explicitly recite that the wordline is an n-type region formed within the substrate of the semiconductor wafer. This is not fairly shown in the Tang patent. Absent this teaching, the Examiner's rejection of the claims is inappropriate.

Moreover, the Tang patent relates to **dynamic** memory and bears no relationship to the **non-volatile** memory with which the present application is concerned. As seen in Figures 8-10 of the Tang patent, a write wordline is required in order to constantly refresh the data stored within the DRAM memory cell. In contrast, because the present invention is **non-volatile** memory, there is no need for a write wordline. To clarify this distinction, the claims have been amended to indicate that the memory cell is for **non-volatile** memory.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 384848014US from which the undersigned is authorized to draw.

Dated:

8/8/05

Respectfully submitted,

By

Chun M. Ng

Registration No.: 36,878
PERKINS COIE LLP
P.O. Box 1247
Seattle, Washington 98111-1247
(206) 359-8000
(206) 359-7198 (Fax)
Attorney for Applicant